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JT12 Rec'd PCT/PTO 23 JUL 2004

ART 34 AMDT

REPLACEMENT SHEET
5 April 2004

What is claimed is:

1. A composition of matter which comprises a an isolated nucleic acid according to SEQ ID NO: 1.
- ~~2. A composition of matter which comprises a nucleic acid selected from the group consisting of nucleotides 1234-3618 of SEQ ID NO: 1, a fragment thereof and a substantially homologous variant thereof.~~
- ~~3. A composition of matter which comprises an isolated nucleic acid according to claim 2 which comprises nucleotides 1234-3618 of SEQ ID NO: 1.~~
- ~~4. A composition of matter which comprises a peptidic sequence selected from the group consisting of a peptidic sequence according to SEQ ID NO: 2, a fragment thereof and a substantially homologous variant thereof.~~
- ~~5. A composition of matter which comprises a an isolated peptidic sequence encoded by a nucleic acid selected from the group consisting of nucleotides 1234-3618 of SEQ ID NO: 1, a fragment thereof and a substantially homologous variant thereof.~~
- ~~6. A composition of matter which comprises a peptidic sequence selected from the group consisting of SEQ ID NO: 2, a fragment thereof, a subunit thereof and a substantially homologous variant thereof.~~
- ~~7. A composition of matter according to claim 6 which comprises a an isolated peptidic sequence according to SEQ ID NO: 2.~~
- ~~8. A composition of matter according to claim 6 which comprises a an isolated peptidic sequence comprising amino acids 36-217 of SEQ ID NO: 2.~~
- ~~9. A composition of matter according to claim 6 which comprises a an isolated peptidic sequence comprising amino acids 233-794 of SEQ ID NO: 2.~~
- ~~10. A composition of matter according to claim 6 4 which inactivates AHL.~~
- ~~11. A method of modulating AHL signaling activity which comprises contacting said AHL with a composition of matter according to any one of claims 5-10 3 or 4-7.~~

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~~12 9. A transgenic plant harboring a nucleic acid selected from the group consisting of nucleotides 1234-3618 of SEQ ID NO. 1, a fragment thereof and a substantially homologous variant thereof of claim 2.~~

~~13 10. A transgenic non-human animal harboring a nucleic acid selected from the group consisting of nucleotides 1234-3618 of SEQ ID NO. 1, a fragment thereof and a substantially homologous variant thereof of claim 2.~~

~~14 11. A method of controlling a bacterial disease in a mammal in need thereof which comprises administering to said mammal a composition of matter according to any one of claims 5-10 3 or 4-7, wherein the expression of pathogenic genes of said bacteria are regulated by AHL signals.~~

~~15 12. A method of claim 14 12 wherein said mammal is a human.~~

~~16 13. A method of controlling a bacterial disease in a plant in need thereof which comprises administering to said plant a composition of matter according to any one of claims 5-10 3 or 4-7, wherein the expression of pathogenic genes of said bacteria are regulated by AHL signals.~~

~~17 14. A method of controlling a bacterial disease in a mammal in need thereof which comprises administering to said mammal a composition of matter of claim 2 and its peptide product, wherein the expression of pathogenic genes of said bacteria are regulated by AHL signals.~~

~~18 15. A method of claim 17 14 wherein said mammal is a human.~~

~~19 16. A method of controlling a bacterial disease in a plant in need thereof which comprises administering to said plant a composition of matter of claim 2, wherein the expression of pathogenic genes of said bacteria are regulated by AHL signals.~~

~~20 17. A method of controlling a bacterial disease in a plant using any bacterial species containing the composition of matter of claim 2.~~